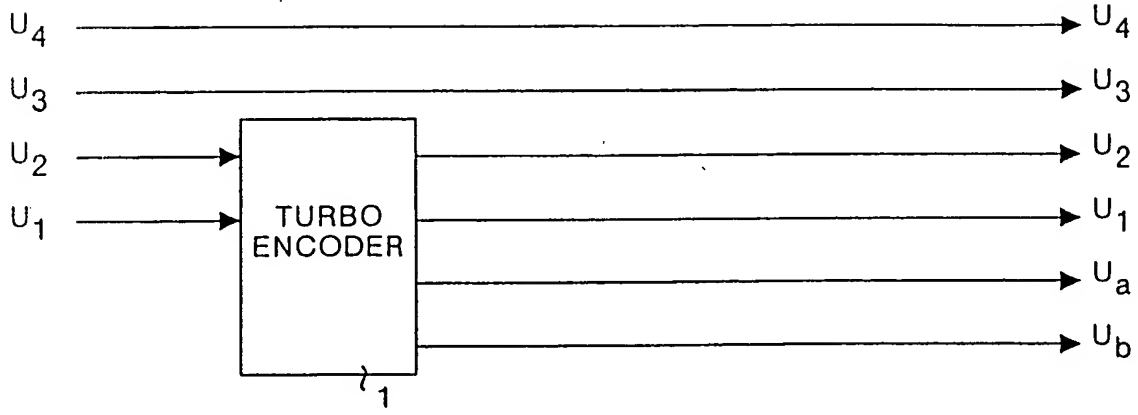
FIG.1

(a)


U4
U3
U2
U1
TURBO ENCODER
1
U4
U3
U2
U1
Ua
Ub

(b)

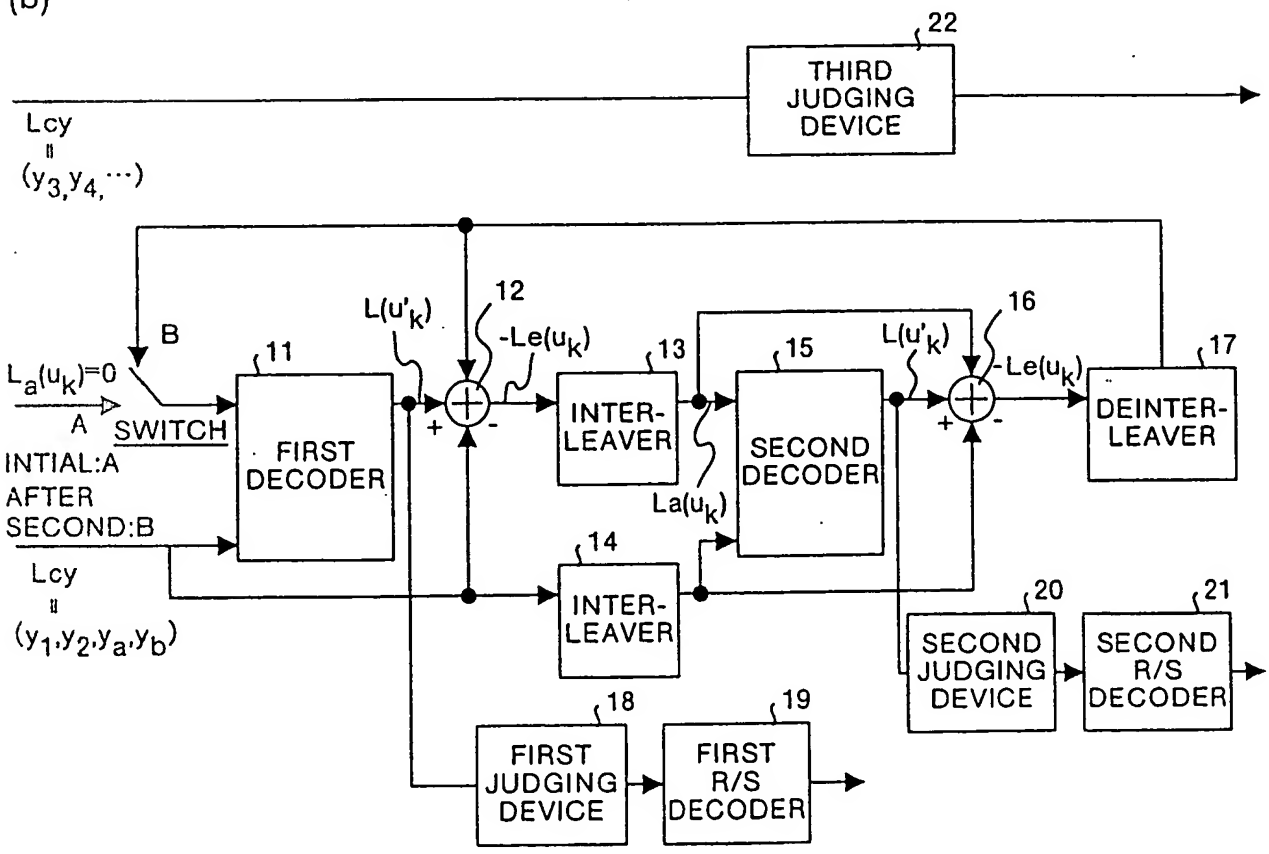

22
THIRD JUDGING DEVICE
Lcy
(y3,y4,···)
B
A
SWITCH
La(uk)=0
INTIAL:A
AFTER
SECOND:B
Lcy
(y1,y2,ya,yb)
11
FIRST DECODER
L(u'k)
12
-Le(uk)
13
INTER-LEAVER
14
INTER-LEAVER
La(uk)
15
SECOND DECODER
L(u'k)
16
-Le(uk)
17
DEINTER-LEAVER
18
FIRST JUDGING DEVICE
19
FIRST R/S DECODER
20
SECOND JUDGING DEVICE
21
SECOND R/S DECODER

FIG.2

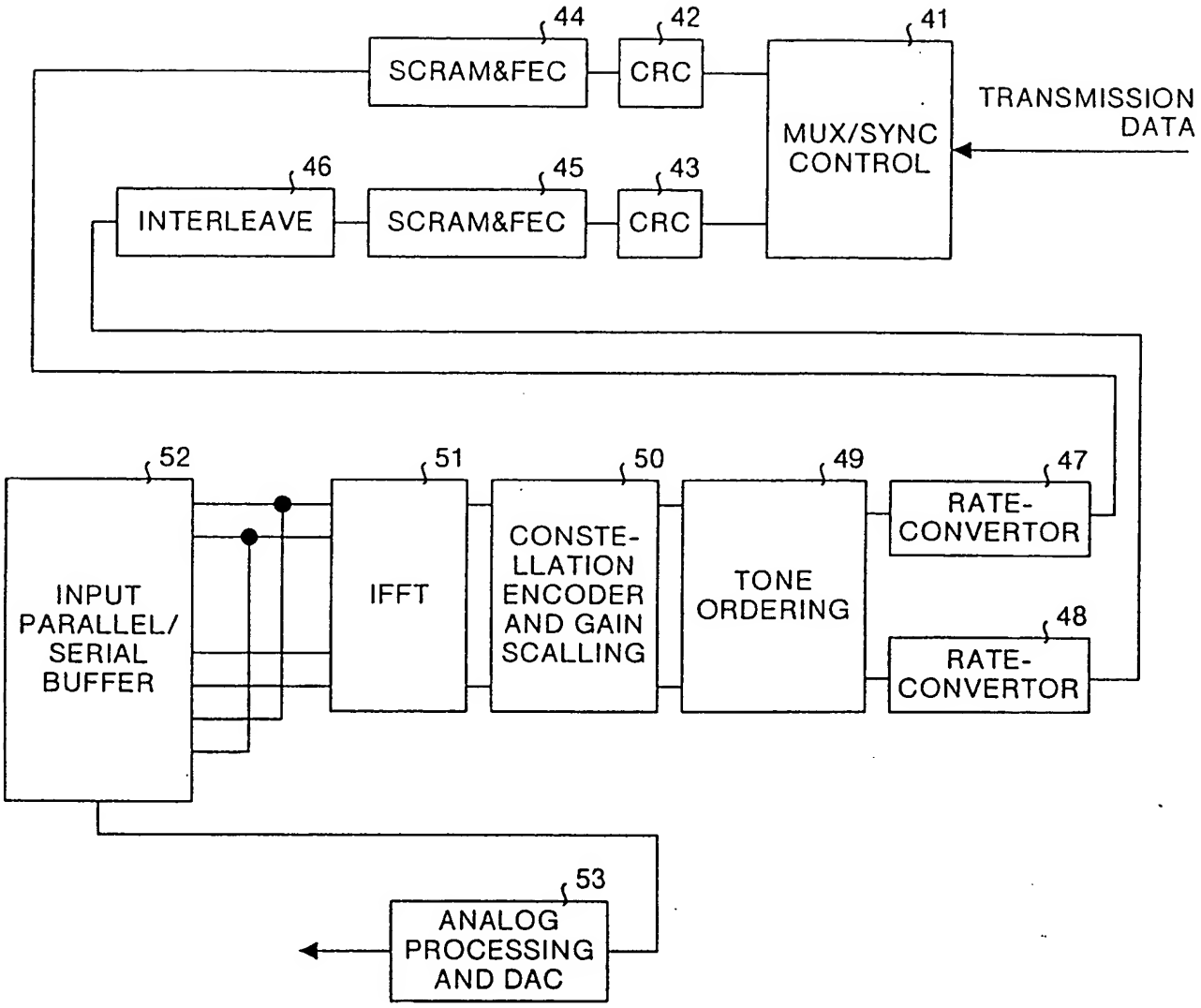

44
SCRAM&FEC
42
CRC
41
MUX/SYNC CONTROL
TRANSMISSION DATA
46
INTERLEAVE
45
SCRAM&FEC
43
CRC
52
INPUT PARALLEL/ SERIAL BUFFER
51
IFFT
50
CONSTE-LLATION ENCODER AND GAIN SCALLING
49
TONE ORDERING
47
RATE-CONVERTOR
48
RATE-CONVERTOR
53
ANALOG PROCESSING AND DAC

FIG.3

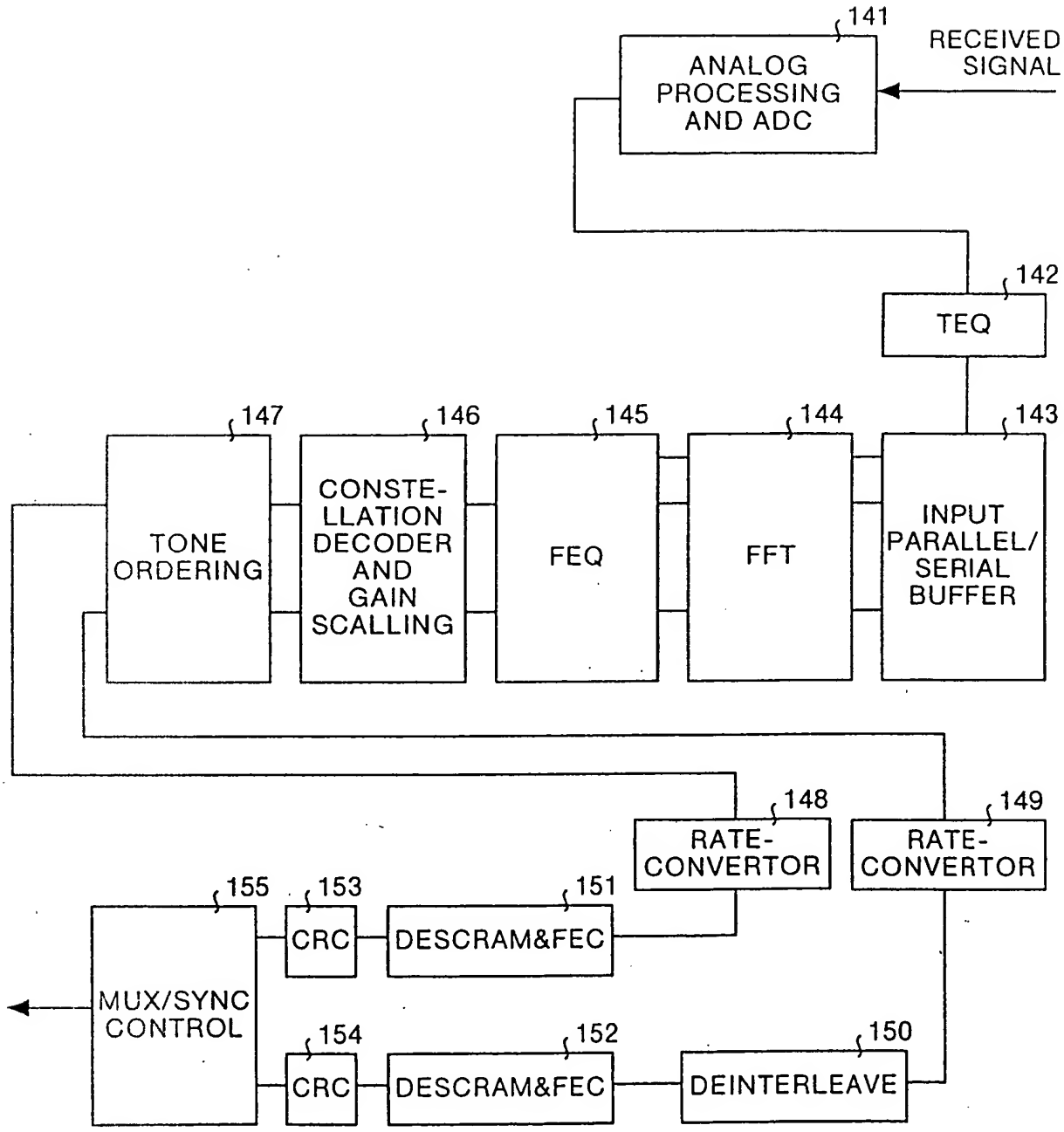
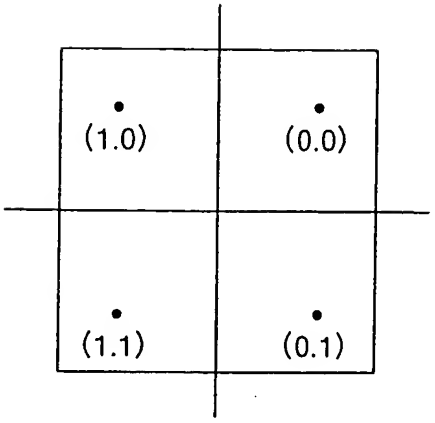
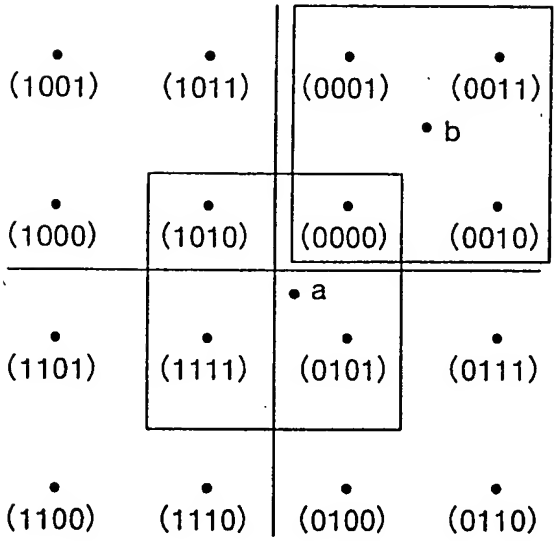

141
RECEIVED SIGNAL
ANALOG PROCESSING AND ADC
142
TEQ
147
146
145
144
143
TONE ORDERING
CONSTE-LLATION DECODER AND GAIN SCALLING
FEQ
FFT
INPUT PARALLEL/ SERIAL BUFFER
148
149
RATE-CONVERTOR
RATE-CONVERTOR
155
153
151
CRC
DESCRAM&FEC
MUX/SYNC CONTROL
154
152
150
CRC
DESCRAM&FEC
DEINTERLEAVE

FIG.4

(a)


(1.0)
(0.0)
(1.1)
(0.1)

(b)


(1001)
(1011)
(0001)
(0011)
b
(1000)
(1010)
(0000)
(0010)
a
(1101)
(1111)
(0101)
(0111)
(1100)
(1110)
(0100)
(0110)

(c)

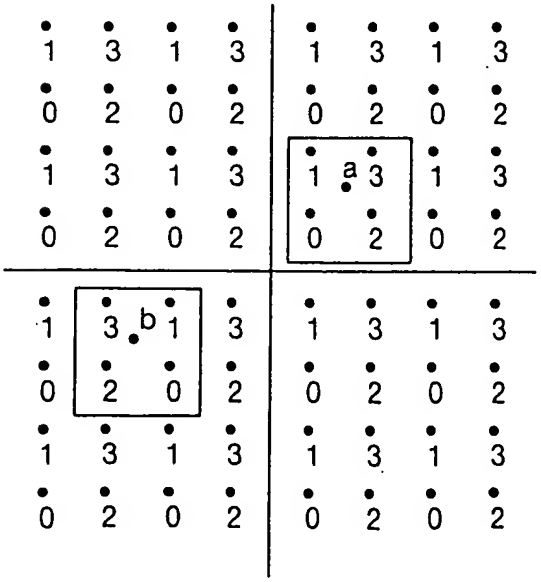
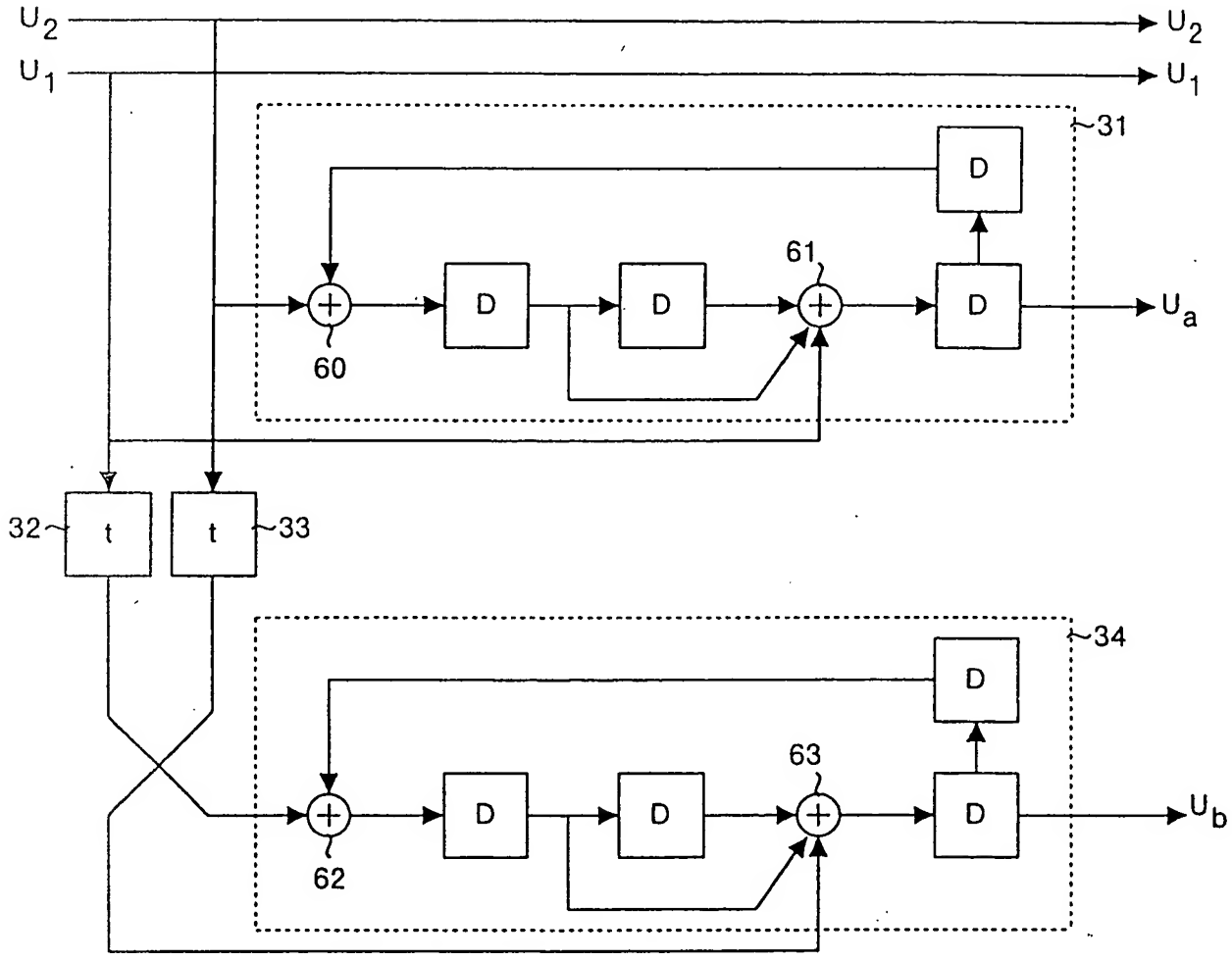

a
b

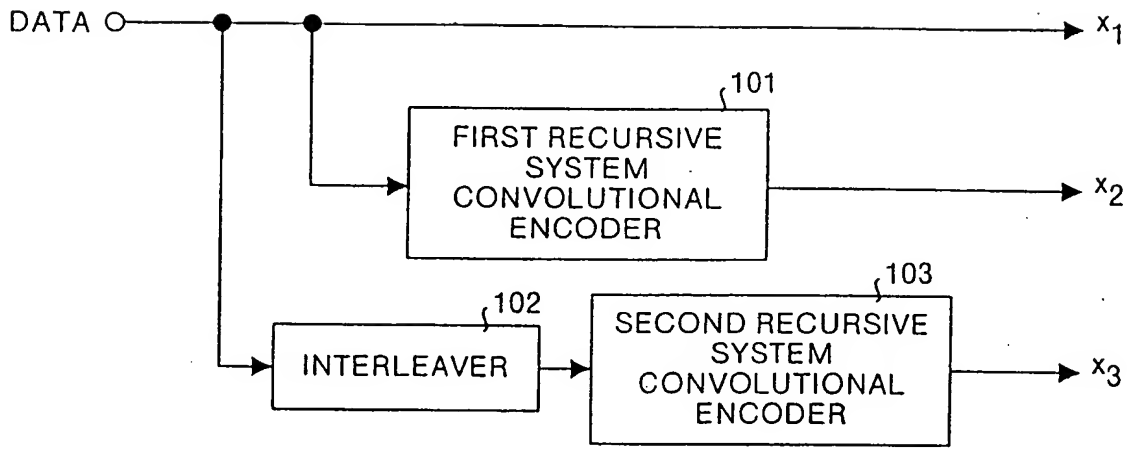
FIG.5



t: INTERLEAVER

FIG.6

(a)


DATA
x_1
101
FIRST RECURSIVE SYSTEM CONVOLUTIONAL ENCODER
x_2
103
102
INTERLEAVER
SECOND RECURSIVE SYSTEM CONVOLUTIONAL ENCODER
x_3

(b)

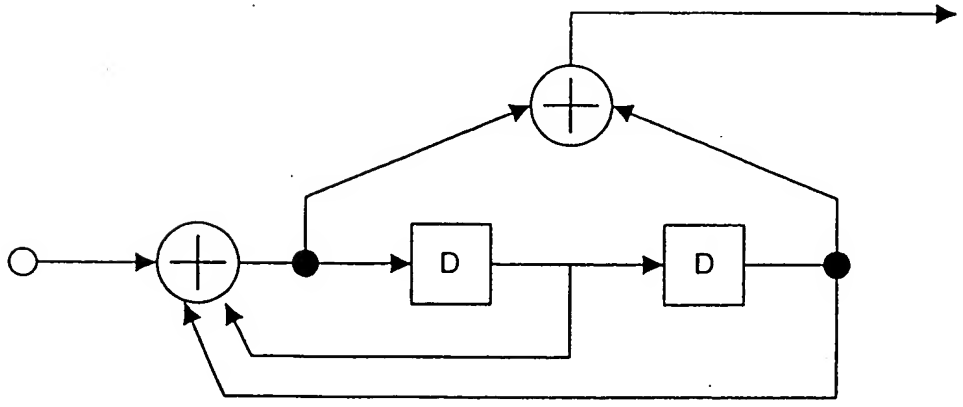
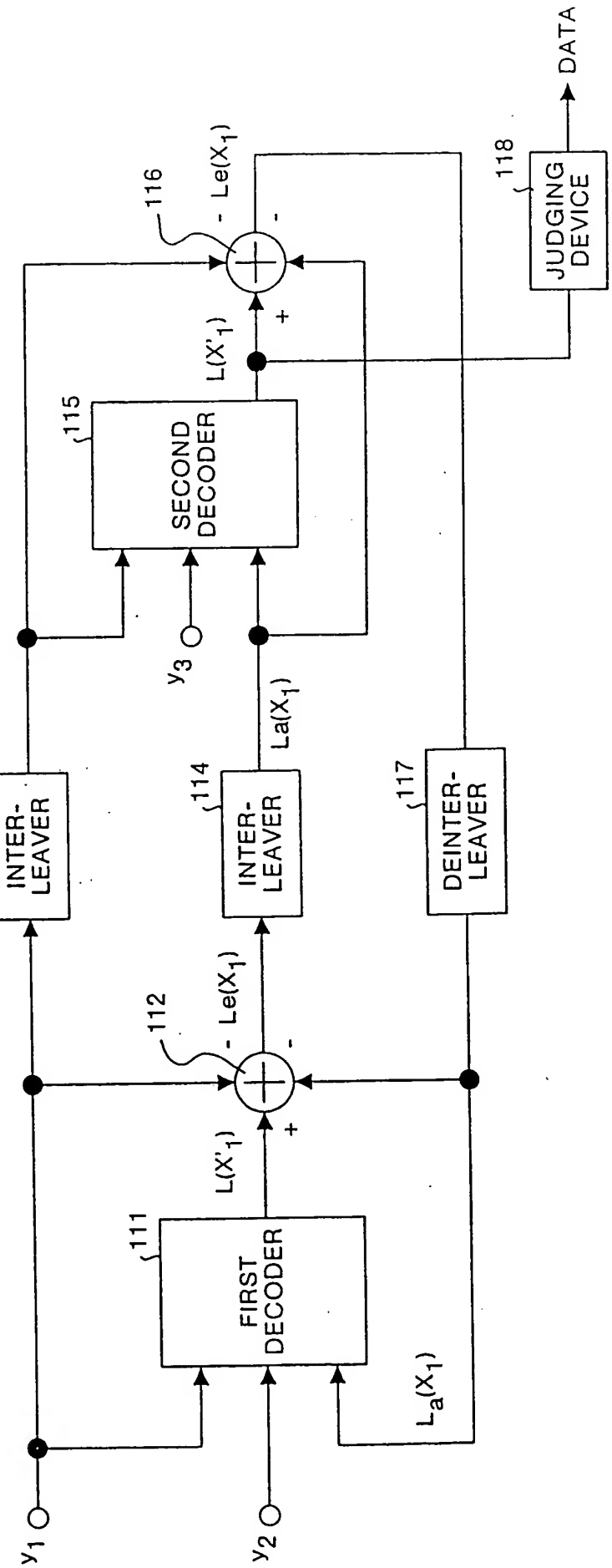

D
D

FIG.7


DATA
JUDGING DEVICE
118
- Le(X1)
116
-
+
L(X'1)
SECOND DECODER
115
y3
La(X1)
INTER-LEAVER
113
INTER-LEAVER
114
DEINTER-LEAVER
117
- Le(X1)
112
-
+
L(X'1)
FIRST DECODER
111
La(X1)
y1
y2